

REMARKS

Claims 37-53 are pending in the application.

Each of claims 37-53 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Segal, U.S. Patent No. 5,513,512 in view of "Nickel, Cobalt and Their Alloys" (ASM Specialty Handbook 2000), or over the combination of these references in further view of Worcester, U.S. Patent No. 5,194,101. The Examiner is reminded by direction to MPEP § 2143 that a proper obviousness rejection has the following three requirements: 1) there must be some suggestion or motivation to modify or combine reference teachings; 2) there must be a reasonable expectation of success; and 3) the combined references must teach or suggest all of the claim limitations. Each of these factors must be shown in order to establish a *prima facie* case of obviousness, the burden of which is upon the Office. Claims 37-53 are allowable over the cited combination of references for at least the reason that the references fail to disclose or suggest each and every limitation in any of those claims, fail to provide motivation for such combination, and fail to provide a basis for a reasonable expectation of success.

Each of independent claims 37-41 recite methods for controlling texture of cast materials utilizing ECAE as combined with one or more of various preliminary treatment processes and/or annealing processes. As acknowledged by the Examiner at page 3 of the present Action, Segal does not teach or suggest the recited combinations of ECAE and any of the recited preliminary treatment processes. As additionally acknowledged by the Examiner, Segal does not teach or suggest the various recited anneal processing. The Examiner indicates, however, that because "Nickel, Cobalt and Their Alloys" discloses homogenizing, it would be obvious to homogenize prior to ECAE to "provide a starting

material with as little segregation as possible" (present Action at page 3). The Examiner further indicates that since "Nickel, Cobalt and Their Alloys" discloses heat treatment of non-ferrous work pieces to reduce stress, it would be obvious to one of ordinary skill in the art to relieve stress after ECAE.

Applicant initially notes that the reference "Nickel, Cobalt and Their Alloys" was first printed in December 2000. Since U.S. Patent Application Serial No. 09/465,492, which is the parent of the present divisional application, was filed December 16, 1999, the "Nickel, Cobalt and Their Alloys" reference does not qualify as prior art. Further, even if this reference were available as a basis of a 103 rejection of the present claims, this reference in combination with Segal fails to disclose or suggest any of the recited combinations of ECAE and preliminary treatment and/or annealing treatments for controlling texture of cast material alloys. Motivation has not been shown for the specific recited combination of processes for methods of controlling textures. The only apparent motivation for utilizing the cited combinations for controlling textures is within applicant's own specification. Further, the combination of "Nickel, Cobalt and Their Alloys" and Segal fail to provide a basis for a reasonable expectation of achieving controlling textures of cast material utilizing the recited combination of processes. Accordingly, independent claims 37-41 are not rendered obvious by the combination of Segal and "Nickel, Cobalt and Their Alloys".

As indicated at page 5 of the present Action, Worcester is relied upon as showing an intermediate annealing during cold deformation steps. The Examiner indicates at page 6 of the present Action that it would be obvious to utilize intermediate annealing for "reducing the strength/hardness of the alloy". However, it is unclear as to how Worcester suggests the specifically recited intermediate annealing between passes of ECAE.

Further, as combined with Segal, Worcester does not contribute toward providing motivation for the various cited combinations of ECAE and preliminary treatment processes and/or annealing processes in methods for controlling texture of a cast material. Nor does Worcester contribute to providing a basis for a reasonable expectation of successfully controlling texture of cast material utilizing the recited combination of techniques. Accordingly, independent claims 37-41 and their dependent claims 42-53 are not rendered obvious by the cited combination of Segal, "Nickel, Cobalt and Their Alloys", and Worcester, and are allowable over these references.

For the reasons discussed above, claims 37-53 are allowable. Accordingly, applicant respectfully requests formal allowance of such pending claims in the Examiner's next action.

Respectfully submitted,

Dated:

October 22, 2003

By:

Jennifer J. Taylor
Jennifer J. Taylor, Ph.D.
Reg. No. 48,711